

pH/ORP/Ion

The measure of acidity or alkalinity of a liquid.

pH/ORP/Ion



Tester:

1. pHTestr® 30
2. pHTestr® 20
3. pHTestr® 10
4. EcoTestr pH 2
5. pHTestr® 10BNC
6. pH Spear
7. ORPTestr® 10
8. ORPTestr® 10BNC

Handheld:

1. CyberScan pH 620
2. CyberScan pH 610
3. CyberScan pH 600
4. CyberScan pH 310
5. CyberScan pH 300
6. CyberScan pH 110
7. CyberScan pH 11
8. Ion 6+
9. pH 6+
10. pH 5+

Bench:

1. CyberScan pH 6500
2. CyberScan pH 6000
3. Ion 2700
4. pH 2700
5. Ion 700
6. pH 700

“Research can be difficult, but measuring with Eutech products is easy.”



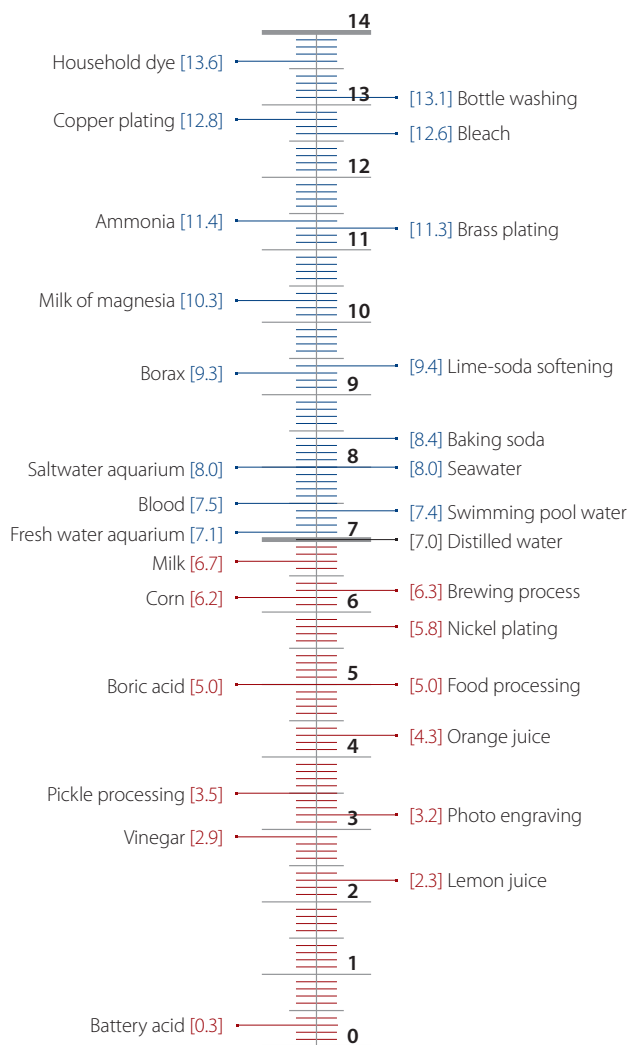
About pH/ORP Measurement

About pH Measurement

Why is pH Important?

pH is one of the most common parameters measured in a wide variety of industries such as water and wastewater treatment, agriculture research and production, environmental monitoring, chemical and life sciences research, electronics production as well as other industrial applications.

Here are examples of pH in a few common industrial and household products:



pH Measurement

pH is always measured across a medium.

Although the litmus paper is one of the most common methods of pH measurement, it can only provide a rough indication which might be insufficient in most applications.

The more accurate method involves the use of a measurement system that consists of a pH meter and a pH electrode that has a hydrogen ion sensitive glass bulb. The most common sensing element used in the electrode is the glass membrane as it is selective for H^+ ions i.e. H^+ ions can permeate through the hydrated layer of glass membrane. However the electrode body may not necessarily be glass.

The movement of ions into the hydrated membrane changes the electrochemical effect inside the glass which is measured in mV and then converted via the pH meter to be reflected as a pH value.

Therefore depending on the concentration of ions in the solution, the mV and hence pH varies.

The performance of an electrode is dependent on two parameters – Offset and Slope.

Offset in pH Electrode

Theoretically, when placed in pH 7.00 buffer at 25 °C, a pH electrode produces 0 mV which the pH meter reads as 7.00 pH. The difference between 0 mV and the electrode's actual reading is called the offset error which can be as high as ± 25 mV.

In other words, when the electrode is not in measurement or in pH 7 buffer solution, the output (or reading) will be known as the offset.

While in theory, the mV value should be zero, however in practice this is rarely the case because of the following reasons:

- Liquid difference
- Bulb composition
- Wire geometry difference and other factors

In practice, it is unrealistic to achieve zero offset in electrodes. The Eutech range of advanced micro-processor based meters provides offset calibration abilities for consistent and reliable measurements.

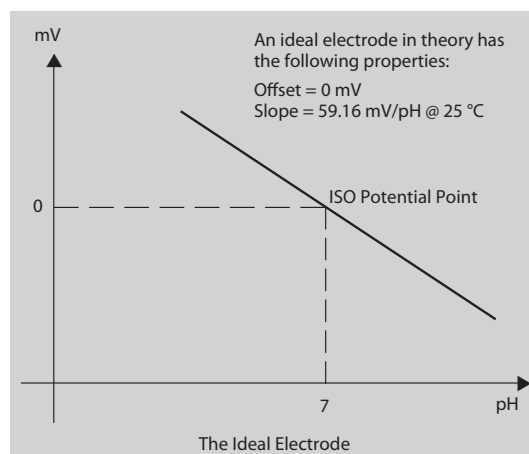
Slope in pH Electrode

A pH electrode produces different mV in different solutions. Therefore, the slope of the electrode can be defined as

Slope = mV/pH unit

A perfect pH electrode, at 25 °C, produces a slope of 59.16 mV per pH unit. For example, an electrode with 0 mV offset should read mV value of 177.48 mV when placed in a pH 4.01 solution. The slope is hence calculated as $(177.48 \text{ mV} - 0 \text{ mV}) / 3 \text{ pH} = 59.16 \text{ mV/pH}$. The difference between this perfect slope reading and the electrode's actual reading is called the slope error.

These theoretical values are not always achieved, even with brand new electrodes. The slope of a new pH electrode should fall between 92 % and 102 % of 59.16 mV. If the slope falls below 92 %, cleaning of the electrode may be needed.



Temperature Compensation

In a perfect pH electrode – one that measures zero at exactly pH 7 – there is no temperature effect on the electrode sensitivity at pH 7 regardless of temperature change. Most pH electrodes are not perfect, but the errors from changes in temperature are still very minute when near pH 7, plus or minus one-tenths of a pH, and can be disregarded. However, the further from pH 7 the solution is and the greater the temperature changes, the greater the expected measurement error due to changes in the electrode's sensitivity. For most electrodes, the error is approximately 0.003 pH/°C/pH away from pH 7.

For example, if a pH meter is calibrated at room temperature (25 °C) and is measuring a sample around pH 4 at around 5 °C,

Temperature difference: 25 °C - 5 °C = 20 °C
pH away from neutral: 7 pH - 4 pH = 3 pH
Total error: 0.003 x 20 x 3 = 0.18 pH

To overcome this error, pH meters require some form of temperature compensation to ensure standardized pH values. Meters and controllers with Automatic Temperature Compensation (ATC) receive a continuous signal from a temperature sensing element and automatically correct the pH value based on the temperature of the solution. Manual Temperature Compensation requires the user to enter the temperature of the solution in order to correct pH readings for temperature. ATC is considered to be more practical for most pH applications.

Most Eutech meters offer ATC capabilities. Models with this feature include the pHTestr® 10, 20, 30 and all the handheld and bench pH meters.

Single and Double Junction Electrodes

For many applications, a single junction reference electrode is satisfactory. However, if samples contain proteins, sulfides, heavy metals or any other material which interacts with silver ions, unwanted side reactions may occur. These reactions can lead to erroneous reference signals or to precipitation at the reference junction leading to a short service life.

A double junction reference design affords a barrier of protection to combat the above interactions. When in doubt about using single or double junction designs, the safest approach is to use the double junction as they can be used anywhere a single junction design can be used. Conversely, single junction designs should not be used where double junction designs are needed. In most process applications, it is recommended to use double junction electrodes.

Eutech's new range of large screen pocket testers pHTestr® series feature double junction electrodes that extend useful life and provide long term cost savings for users.

Normal Aging

As electrodes are used or stored for long periods they will experience some deterioration in performance. Offsets will change and slope errors will increase. By using the calibration controls these errors can be corrected. If an electrode is able to be calibrated and is stable and responsive, it is still a functional electrode and may be used in service even though it no longer meets "new" electrode specifications.

About ORP Measurement

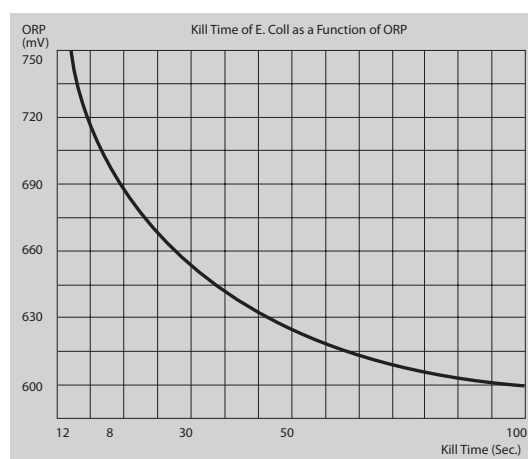
ORP – Oxidation Reduction Potential

Oxidation-Reduction Potential (ORP) or Redox Potential measurements are used to monitor chemical reactions, to quantify ion activity, or to determine the oxidizing or reducing properties of a solution. ORP is a measurement of the electrical potential of a redox reaction and serves as a yardstick to judge how much oxidation or reduction takes place under existing conditions.

ORP electrodes measure the voltage across a circuit formed by the measuring metal half cell and the reference half cell. When the ORP electrode is placed in the presence of oxidizing or reducing agents, electrons are constantly transferred back and forth on its measuring surface, generating a tiny voltage. The ORP measurement can be made using the millivolt mode of a pH meter.

Major areas of usage include the treatment of industrial wastes, study of biological systems, oxidation of cyanide, bleaching of pulp, manufacture of bleach and reduction of chromate wastes.

The measurement of ORP is also useful in pool water treatment as an indication of sanitation in relation to free chlorine parameter. ORP technology has gained recognition worldwide and is found to be a reliable indicator of bacteriological water quality. The table below illustrates the Kill Time of E.Coli bacteria as a function of ORP value. With a value of 600 mV, the life of the bacteria is almost 2 minutes; at 650 mV it reduces to 30 seconds. Above 700 mV the bacteria is killed within a few seconds. It is therefore necessary for the water to have an ORP value of at least 700 mV to ensure good water quality.



ORP value also depends on the pH of pool water. Normal values lie between 7.2 and 7.6 pH with a tendency to increase to around 8.0 to 9.0 pH depending on the level of contamination. The pH of the pool water has to be maintained at the optimum level between 7.2 and 7.6 pH by dosing appropriate chemicals. If the pH of the swimming pool water is acceptable and the ORP value is below 700 mV, hypochlorite or other oxidising chemicals should be added.

Eutech offers a wide range of meters that measure both pH and ORP values in various educational, laboratory and industrial applications. These include ORPTestr® 10 pocket tester, handheld meters CyberScan Series pH 300, pH 310, pH 11 and pH 110, pH 6+ and the CyberScan bench meter series 510, 1100, 2100, 1500 and the colour touchscreen research-grade series 6000.



Large custom dual-display LCD



Ribbed body for better grip



User-replaceable sensor



Comes with protective plastic case and lanyard

pH measurement has never been easier with the pHTestr® series. Accurate, handy and user-friendly, the pHTestr 30, pHTestr 20 and pHTestr 10 are best pocket testers in their class.



Applications

General: Quick and accurate checks in pools and spas, aquariums and hydroponics operations, or wherever frequent pH testing is required.

Industrial: Cooling towers, food processing, water and wastewater treatment, photo-development, printing and chemical industries.

Educational: Useful for most laboratory, ecological studies and other applications.

High Accuracy

- Up to ± 0.01 pH accuracy at 0.01 pH resolution
- 3-point push-button calibration with USA and NIST buffer option sets – quick, easy calibration with no mistakes
- Automatic Temperature Compensation (ATC) for accurate readings even in varying conditions

Long Lasting

- Double-junction sensor with chemical resistant Kynar® porous junction minimizes clogging and contamination
- Longer electrode lifespan with increased polymer gel volume
- Rugged and waterproof to IP67 standards. So light, it floats!

User-Friendly

- Large custom dual display LCD
- Calibration settings remain, even when tester runs out of batteries



EcoTestr pH 2

pH

pH/ORP/Ion
Pocket Tester

Economical pH measurement is a breeze with the EcoTestr pH 2. Designed for fuss-free measurements on the go, the pH 2 is ideal for quick pH measurements in hydroponic gardening, aquaculture, agriculture, pools, simple lab work and other water/wastewater applications.

Automatic pH calibration feature – switch tester to calibration mode, immerse sensor in pH buffer solution and leave tester to do the rest



Automatic temperature compensation adjust readings according to temperature change automatically for greater accuracy



Pocket clip secures tester firmly to your belt or pocket



Durable keypad



IP67 waterproof – lightweight tester floats on water for easy retrieval



Transparent protective cap doubles up as a container for sensor conditioning or on-site calibration

- ± 1 % accuracy
- Quick, easy calibrations at the press of a button with auto-buffer recognition and auto-calibration functions
- Up to three calibration points for broadened accuracy throughout the pH range



Applications

Water and wastewater treatment
• Environmental monitoring • Education
• Hydroponics • Agriculture • Aquaculture and aquariums • Pools and spas • Food and beverage manufacturing • Cooling towers
• Electroplating • Printing • Photo-development and more!

pHTestr® 10BNC

pH/°C/°F

The versatile pHTestr 10BNC comes with a BNC electrode connection, allowing the tester to be used with a wide range of specialty electrodes with various cable lengths – especially useful in inaccessible areas such as cooling towers or large drums used in yoghurt production.

Applications

General: Quick and accurate checks in pools and spas, aquariums and hydroponics operations, or wherever frequent pH testing is required.

Industrial: Cooling towers, food processing, water and wastewater treatment, photo-development, printing and chemical industries.

Educational: Useful for most laboratory, ecological studies and other applications.

- User-selectable electrodes with BNC connectors
- Up to ± 0.01 pH accuracy at 0.01 pH resolution
- Non-volatile memory holds your tester settings, even when batteries run out
- 3-point push-button calibration with USA and NIST buffer option sets – quick, easy calibrations with no mistake
- Advance power management – 500 hours of operation on one set of batteries
- Large custom dual-display LCD
- Waterproof to IP67 standard. So light, it floats!



Light-weight tester floats for easy retrieval

BNC connector enables testing with a wide range of specialty electrodes with BNC connectors



pH Spear

pH/°C/°F

Specially designed for food applications, the Eutech pH Spear is equipped with a tough spear tip open pore sensor, and allows direct pH measurement of solid or semi-solid samples like cheese, fruits, meat and wet soil.



Meat



Cheese

Large custom dual-display



Open pore reference junction minimises clogging and delivers fast, stable measurements

- Open pore spear tip sensor with MTC – tough, fast, stable and minimal clogging
- Double junction sensor prolongs electrode lifespan without contaminating samples
- Up to ± 0.01 pH accuracy at 0.01 pH resolution
- Non-volatile memory holds your tester settings, even when you run out of batteries
- 3-point push-button calibration with 5 buffer option sets – quick, easy calibrations with no mistake
- Advance power management – 500 hours of operation on one set of batteries
- Waterproof to IP67 standard



Tough open pore spear tip

Double-junction sensor prevents contamination of sample



Applications

• Bread • Meat • Cheese • Salami • Ice-cream
• Poultry • Fruits • Other dairy products • Soil
• Other similar samples

ORPTestr® 10 ; ORPTestr® 10BNC

ORP

ORP

pH/ORP/Ion
Pocket Tester

Fast, stable and precise – the ORPTestr 10 is designed with advanced microprocessor technology to give you up to ± 2 mV accuracy across a wide measuring range. User-replaceable double-junction sensor with a wide platinum band provides highly accurate results, even in wet and rugged environments.



Large surface area platinum band provides quick, stable, repeatable results

Valox® strong plastic casing offers superior chemical resistance



ORPTestr 10BNC enables a wider range of specialty electrodes to be used

(Refer to page 106 for our ORP electrode selection)

More Accurate

- ± 2 mV full scale accuracy
- Wide range of -999 to 1000 mV

More Savings

- Replaceable double-junction Ag/AgCl polymer sensor
- Advance power management – 500 hours of operation on one set of batteries

More User-Friendly









- Large custom display LCD
- Non-volatile memory stores your tester settings, even when you run out of batteries
- Waterproof to IP67 standard. So light, it floats!

Applications

- Chromate reduction • Cyanide oxidation
- Swimming pool water • Pulp bleaching
- Cooling towers • Aquaculture • Drinking water • Other redox applications



pH/ORP Pocket Testers Specifications

| Models | | pHTestr 30 | pHTestr 20 | pHTestr 10 | EcoTestr pH 2 | pHTestr 10BNC | pH Spear | ORPTestr 10 | ORPTestr 10BNC |
|--|--------------------------|---|---|---|---|--|---|---|---|
| pH/ORP Pocket Testers Specifications | |  |  |  |  |  |  |  |  |
| | | pH / °C / °F | | pH | | | | | ORP |
| Measuring Parameter | | 0.01 resolution, temp. display | 0.01 resolution | 0.1 resolution | | BNC connection | Open pore, spear tip | Platinum band sensor | BNC connection |
| Highlights | | | | | | | | | |
| pH/ORP | Range | -1.00 to 15.00 pH | | -1.0 to 15.0 pH | | 0.0 to 14.0 pH | | -1.00 to 15.00 pH | |
| | Resolution | 0.01 pH | | 0.1 pH | | 0.01 pH | | 1 mV | |
| | Accuracy | ±0.01 pH | | ±0.1 pH | | ±0.01 pH | | ±2 mV | |
| | Cal. Points | 3 auto | | | | | | | 1 manual |
| | Buffer Sets | USA: 4.01 / 7.00 / 10.01 ; NIST: 4.01 / 6.86 / 9.18 | | | | | | | – |
| Temperature | Range | 0 to 50.0 °C / 32.0 to 122.0 °F | – | | | 0 to 50.0 °C / 32.0 to 122.0 °F | | – | |
| | Resolution | 0.1 °C / 0.1 °F | – | | | 0.1 °C / 0.1 °F | | – | |
| | Accuracy | ±0.5 °C / 0.9 °F | – | | | – | | – | |
| | Calibration Window | ±5 °C / 9 °F from default value | – | | | 0 to 50.0 °C / 32.0 to 122.0 °F | | – | |
| Meter Features | Temperature Compensation | ATC | | | | MTC | | – | |
| | Sensor Type | Double-junction | | | Single-junction | BNC | Double-junction | | BNC |
| | Sensor Included | Yes | | | | – | Yes | | – |
| | Replacement Sensors | 1 | | | – | Many | 1 | | Many |
| | Non-Volatile Memory | Yes | | | | | | | |
| | Auto-Off | 8.5 mins after last key pressed | | | | | | | |
| | Operating Temperature | 0 to 50 °C | | | | | | | |
| | LCD Display | Dual-display LCD (2.1 x 2.7 cm) | | | Single-display LCD (1.7 x 0.7 cm) | Dual-display LCD (2.1 x 2.7 cm) | | | |
| | Power | 4 x 1.5 V ‘A76’ micro alkaline batteries (included) | | | | | | | |
| Dimensions (LxWxH); Weight | Tester | 16.5 x 3.8 cm ; 90 g | | | 16.3 x 4.5 x 3 cm ; 90 g | 16.5 x 3.8 cm ; 90 g | 24 x 3.8 cm ; 103 g | 16.5 x 3.8 cm ; 90 g | |
| | Boxed | 18.5 x 6.5 x 5 cm ; 200 g | | | 24.5 x 13.5 x 4.5 cm ; 137 g | 18.5 x 6.5 x 5 cm ; 200 g | 28 x 7 x 7 cm ; 180 g | 18.5 x 6.5 x 5 cm ; 200 g | |



pH/ORP Pocket Testers

| Item | Order Code | Part No. | Parameters | | | Sensors | | | | Accessories | |
|----------------|--------------|-----------|------------|-----|-------------|--|---|--|--|-------------|--------------------------------|
| | | | pH | ORP | Temperature | pH Double Junction Sensor (PHSENSOR03DJ) | pH/ORP BNC Connector Sensor (PHSENSORBNC) | pH Double Junction Spear-Tip Sensor (PHSENSOR04) | ORP Double Junction Sensor (ORPSENSORDJ) | Lanyard | Alkaline Button Cell Batteries |
| pHTestr 30 | PHTEST30 | 01X366903 | • | | • | • | | | | • | • |
| pHTestr 20 | PHTEST20 | 01X366902 | • | | | • | | | | • | • |
| pHTestr 10 | PHTEST10 | 01X366901 | • | | | • | | | | • | • |
| EcoTestr pH 2 | ECPHTEST2 | 01X460902 | • | | | | | | | | • |
| pHTestr 10BNC | PHTEST10BNC | 01X366904 | • | | | | • | | | • | • |
| pH Spear | PHSPEAR | 01X366920 | • | | | | | • | | | • |
| ORPTestr 10 | ORPTEST10 | 01X366909 | | • | | | | | • | • | • |
| ORPTestr 10BNC | ORPTEST10BNC | 01X366916 | | • | | | • | | | • | • |

Replacement Sensors & Electrodes

| Used With | Description | Order Code | Part No. |
|--------------------------------|--|---------------|-----------|
| pHTestr 10 / 20 / 30 | Replacement double junction sensor | PHSENSOR03DJ | 01X106709 |
| EcoTestr pH 2 | pH 4.01 buffer solution, 480 ml bottle | ECBU4BT | 01X211201 |
| EcoTestr pH 2 | pH 7.00 buffer solution, 480 ml bottle | ECBU7BT | 01X211202 |
| EcoTestr pH 2 | pH 10.01 buffer solution, 480 ml bottle | ECBU10BT | 01X211203 |
| EcoTestr pH 2 | Storage solution for pH sensor, 480 ml bottle | ECRE005 | 01X211206 |
| EcoTestr pH 2 | Protein removal solution, 480 ml bottle | ECDPCBT | 01X211216 |
| EcoTestr pH 2 | pH 4.01 buffer sachets (NIST traceable), box of 20 x 20 ml sachets | ECBU4BS | 01X223102 |
| EcoTestr pH 2 | pH 7.00 buffer sachets (NIST traceable), box of 20 x 20 ml sachets | ECBU7BS | 01X223101 |
| EcoTestr pH 2 | pH 10.01 buffer sachets (NIST traceable), box of 20 x 20 ml sachets | ECBU10BS | 01X223103 |
| EcoTestr pH 2 | pH deionized water rinse sachets (NIST traceable), box of 20 x 20 ml sachets | ECRINWT | 01X223201 |
| pHTestr 10BNC / ORPTestr 10BNC | Replacement BNC connector sensor | PHSENSORBNC | 01X106720 |
| pH Spear | Replacement double junction spear-tip electrode | PHSENSOR04 | 01X106724 |
| ORPTestr 10 | Replacement double junction sensor | ORPSENSORDJ | 01X106711 |
| pHTestr 10BNC | General purpose plastic-body single junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7252101B | 01X099412 |
| pHTestr 10BNC | General purpose plastic-body single junction refillable pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable & 10 ml refilling electrolyte | ECFC72521R01B | 01X099413 |
| pHTestr 10BNC | General purpose plastic-body double junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7252201B | 01X099417 |
| pHTestr 10BNC | General purpose plastic-body double junction refillable pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable & 10 ml refilling electrolyte | ECFC72522R01B | 01X099414 |
| pHTestr 10BNC | Submersible ABS-body gel-filled pH combination electrode; single annular ceramic junction, BNC connector, 3 m cable | ECDA9350603B | 93X218879 |
| pHTestr 10BNC | Direct connect epoxy-body gel-filled pH combination electrode, 12 x 90 mm, BNC connector on top of electrode | ECGE7251000B | 93X218826 |
| ORPTestr 10BNC | General purpose plastic-body single junction gel-filled ORP electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7960101B | 01X256612 |
| ORPTestr 10BNC | General purpose plastic-body single junction refillable ORP electrode, 12 x 90 mm, BNC connector, 1 m cable & 10 ml refilling electrolyte | ECFC79601R01B | 01X254014 |
| ORPTestr 10BNC | General purpose plastic-body double junction gel-filled ORP electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7960201B | 01X256613 |
| ORPTestr 10BNC | General purpose plastic-body double junction refillable ORP electrode, 12 x 90 mm, BNC connector, 1 m cable & 10 ml refilling electrolyte | ECFC79602R01B | 01X256621 |

Accessories

| Used With | Description | Order Code | Part No. |
|------------|--|------------|-----------|
| All testrs | Belt-loop soft carrying case for testr | ECPOUCH01 | 56X201300 |
| All testrs | Alkaline button cell batteries (50 units per pack) | ECBATT14 | 01X220401 |



Electrode inputs



Wireless data transfer



Waterproof external
power input



Complimentary
CyberComm software
– download data from
meter to PC as text or
Excel® spreadsheet

Applications

- Surface water analysis • Water & wastewater treatment • Boiler blow-down
- Electroplating rinse tanks • Drinking water
- Hydroponics • Printing Industry
- Swimming pools • Others

Featuring a large, comprehensive screen with simultaneous display of electrode status, calibration information, temperature and pH or ion measurements at 3-digit resolution! The CyberScan pH 600 comes with advanced wireless communication technology – no wires, no cables. Simply send data from meter to PC with the press of a button.



IrDA wireless
communication

Comprehensive one-
glance-tells-all screen
display with backlight

Sturdy rubber
boot with hinge
doubles up as
bench top stand

Higher Resolution & Accuracy

- High accuracies of up to ± 0.002 at resolution expandable to 3-decimal places
- Cal-due alarm prevents out-dated calibrations
- Higher full-range accuracy with up to 6 pH and 8 Ion calibration points
- Electrode diagnostic with properties report and response indicator alerts when electrodes require maintenance

Fuss-Free Data Management

- Non-volatile memory stores up to 500 data sets in GLP-compliant format
- RS232C through LED*, IrDA wireless communications technology
- Complimentary Eutech CyberComm 600 DAS software
- Auto-logging function automatically logs readings at user-set intervals – great for continuous monitoring

More User-Friendly

- Intuitive and self-diagnostic
- 20 buffer options with custom and auto buffer recognition
- High/low set-points function for quality control checks – meter warns when readings fall outside set limit
- Password protection security for calibration and set-up menus

* RS232C (LED) interface adapter available as separate accessory (order code: 01X344201)



CyberScan pH 310 ; CyberScan pH 300

pH/ORP/°C/°F

pH/ORP/°C

pH/ORP/Ion
CyberScan Waterproof
Handheld

CyberScan pH 310 and pH 300 are IP67 waterproof and ergonomically designed for the rigours of field measurements and the demands of laboratory applications.



Ergonomic design



Rubber sleeve provides better protection against water seepage



Adjustable probe holder



Available in complete kit version

- Waterproof to IP67 standard
- Additional protection against water seepage with rubber sleeve at connector
- Up to 5-point push button calibration
- Selectable automatic/manual temperature compensation
- Dual-display shows pH & temperature readings simultaneously
- Other features include: Custom dual-display LCD, user-customisation on advanced setup mode, auto-off, HOLD function, self-diagnostics, electrode status display

Expanded Features of CyberScan pH 310

- GLP-compliant date/time stamping
- Up to 6-point push button calibration with DIN buffer set
- Selectable °C/°F
- Extended memory – 50 data sets
- Auto-hold function



Applications

Industrial: Ideal for checks in water conditioning plants, cooling towers, plating and finishing operations, food processing water testing (e.g. HACCP compliance), printing, chemical, manufacturing and water/wastewater treatment.

Educational: Useful for most laboratory, ecological studies and other applications.

Laboratory: Use in all types of food processing, environmental studies, chemical labs, titrations and quality assurance testing, where GLP data-management is required.

pH/ORP/Ion

CyberScan Standard
Handheld

CyberScan pH 110 ; CyberScan pH 11

Ion/pH/ORP/°C

pH/ORP/°C

User-friendly with advanced features, the CyberScan pH 110 and 11 are self-diagnostic and designed to fit your palm perfectly for effortless one-hand operation.



Complimentary
CyberComm Data
Acquisition software*

* CyberScan pH 110 only



RS232C output to printer
or computer with DAS*

* CyberScan pH 110 only



Available in
complete kit version



pH 11



Dual-display
with temperature
annunciator

Ergonomically
designed for
easy one-hand
operation

Splashproof
tactile
keypad

IP54-rated housing
protects meter
against accidental
water splashes

pH 110

Applications

• Food processing • Water & wastewater treatment • Cooling towers • Printing
• Ponds & aquariums • Agriculture & hydroponics • Education institutions
• Electroplating operations (use with ORP electrode)

Expanded Features of CyberScan pH 110

- Selectable °C/°F
- Up to 6-point push-button calibration with DIN buffer set
- Direct data transfer via RS232C output – auto data-logging to PC with CyberComm DAS
- Expanded memory stores up to 100 data sets



Ion 6+ ; pH 6+ ; pH 5+

Ion/pH/ORP/°C pH/ORP/°C pH/°C

pH/ORP/Ion
Economy Handheld

The new Eutech Ion 6+, pH 6+ and pH 5+ offer you the greatest value-for-money for basic pH and ion measurement needs. Rugged and user-friendly, these no-frill meters come with protective rubber boots and convenient benchtop stands – great for both the lab and the field.



Protective rubber boot

Splashproof tactile keypad for reliable performance

pH 6+

Ion 6+

Shock-resistant ABS plastic



Reader-friendly screen display



Protective rubber boot



Available in complete kit version

- Up to 3 calibration points with auto-buffer recognition and choice of USA, NIST and pure water buffer option sets – quick, easy calibration with no mistakes
- Accuracy of up to ± 0.01 pH and ± 0.5 °C
- Automatic Temperature Compensation (ATC)
- Non-volatile memory holds your settings, even when meter runs out of batteries
- Hold function freezes readings for easy reference
- Auto-off conserves energy and lengthens battery life-span
- Easy troubleshooting with comprehensive self-diagnostic messages













Applications

General: Ideal for checks in pools and spas, aquariums and hydroponics operations, or anywhere water quality is a concern.

Industrial: Cooling towers, food processing, water and wastewater treatment, photo-development, printing and chemical industries.

Educational: Useful for most laboratory, ecological studies and other applications.

| Models | | CyberScan Dual-Display | | | | | | Eutech Single-Display | | | | |
|---------------------------------------|--------------------------|---|---|---|---|---|--|---|---|---|---|---|
| | | pH 620 | pH 610 | pH 600 | pH 310 | pH 300 | pH 110 | pH 11 | Ion 6+ | pH 6+ | pH 5+ | |
| pH/ORP Handheld Meters Specifications | |  |  |  |  |  |  |  |  |  |  | |
| Measuring Parameter | | pH / ORP / Ion / °C / °F | pH / ORP / °C / °F | | | pH / ORP / °C | pH / ORP / °C / °F | pH / ORP / °C | Ion / pH / ORP / °C | pH / ORP / °C | pH / °C | |
| Highlights | | Waterproof, GLP, RS232C, IrDA, Ion, 0.001 pH | Waterproof, GLP, RS232C, IrDA, 0.001 pH | Waterproof, GLP, RS232C, IrDA, 0.01 pH | Waterproof, GLP | Waterproof handheld | Expanded memory, RS232C output | Standard handheld | Economical Ion, pH, ORP measurement | Economical pH, ORP measurement | Economical pH measurement | |
| pH | Range | -2.000 to 20.000 pH | | -2.00 to 20.00 pH | | -2.00 to 16.00 pH | | | 0.00 to 14.00 pH | | | |
| | Resolution | 0.1 / 0.01 / 0.001 pH | | 0.1 / 0.01 pH | | 0.01 pH | | | | | | |
| | Accuracy | ±0.002 pH | | ±0.01 pH | | ±0.01 pH | | | | | | |
| | Cal. Points | 1 (Offset) to 6-points | | | Up to 6 (using DIN) | Up to 5 | Up to 6 (using DIN) | Up to 5 | Up to 3 | | | |
| | Buffer Sets | USA, NIST, DIN, PWB, Custom | | | USA, NIST, DIN | USA | USA, NIST, DIN, PWB | USA, NIST | USA, NIST, PWB | | | |
| ORP | Range | ±2000.0 mV | | | ±1999 mV | | | | ±500 mV | ±1000 mV | – | |
| | Rel. mV Range | ±2000.0 mV | | | ±1999 mV | | | | – | ±500 mV | ±1000 mV | – |
| | Resolution | 0.1 mV | | | 0.1 mV (±199.9 mV) / 1 mV (beyond) | | | | | | – | |
| | Accuracy | ±0.2 mV + 1 LSD | | | ±0.2 mV / ±2 mV + 1 LSD | | | | | | – | |
| Ion | Range | 0.001 to 19900 | – | | | | | | 0.01 to 0.99 / 1.0 to 199.9 / 200 to 1999 ppm | | – | |
| | Resolution | 2 or 3 digits | – | | | | | | 0.01 / 0.1 / 1 ppm | | – | |
| | Accuracy | 0.5 % full scale (monovalent) 1 % full scale (divalent) | – | | | | | | ±1 % full scale | | – | |
| | Cal. Points | Up to 8 | – | | | | | | Up to 3 | | – | |
| Temperature | Range | -10 to 110 °C / 14 to 230 °F | | | | -10 to 110 °C | -10 to 110 °C / 14 to 230 °F | 0.0 to 100.0 °C | | | | |
| | Resolution | 0.1 °C / 0.1 °F | | | | 0.1 °C | 0.1 °C / 0.1 °F | 0.1 °C | | | | |
| | Accuracy | ±0.5 °C / ±0.9 °F | | | | ±0.5 °C | ±0.5 °C / ±0.9 °F | ±0.5 °C | | | | |
| Meter Features | Temperature Compensation | ATC / MTC (0 to 100 °C) | | | | | | | | | | |
| | GLP | Yes | | | | – | | | | | | |
| | Cal-Due Alarm | Yes | | | – | | | | | | | |
| | Slope/Offset Display | Yes | | | | | | | – | | | |
| | IP67 | Yes | | | | | – | | | | | |
| | Datalogging | Yes | | | – | | | | | | | |
| | Memory | 500 data sets | | | 50 data sets | 16 data sets | 100 data sets | 50 data sets | – | | | |
| | Operating Temperature | 0 to 50 °C | | | | | | | | | | |
| | Average/Stability | Yes | | | | | | | | | | |
| | LCD Display | Dot-matrix LCD with backlight (5.4 x 7.1 cm) | | | Dual-display LCD (5.8 x 3.3 cm) | | | | Single-display LCD (4.5 x 2.3 cm) | | | |
| | Auto-Off | 2 to 30 mins after last key pressed | | | 20 mins after last key pressed | | | | | | | |
| | Input | DC phono sockets, 8-pin connector, BNC | | | 6-pin connector, BNC | | DC socket, BNC, 2.5 mm phono socket | | BNC, 2.5 mm phono socket | | | |
| | Output | IrDA, RS232C (via LED) * | | | – | | RS232C | – | | | | |
| | Power | 4 x 1.5 V 'AA' alkaline batteries or 9 V DC adapter, 500 mA | | | 4 x 1.5 V 'AAA' alkaline batteries | | 4 x 1.5 V 'AAA' alkaline batteries or 9 V DC adapter, 200 mA | | 4 x 1.5 V 'AAA' alkaline batteries | | | |
| | Battery Life | > 500 hrs | | | > 200 hrs | | > 700 hrs | | > 500 hrs | | | |
| Dimensions (LxWxH); Weight | Meter | 18.3 x 9.5 x 5.7 cm ; 460 g | | | 19 x 10 x 6 cm ; 320 g | | 18 x 9 x 4 cm ; 220 g | | 15.7 x 8.5 x 4.2 cm ; 255 g | | | |
| | Boxed | 40 x 33 x 10 cm ; 2680 g | | | 40 x 33 x 10 cm ; 2100 g | | 36 x 28 x 8 cm ; 1555 g | | | | | |

* RS232C (LED) interface adapter available as separate accessory (see page 27 for order information)

pH/ORP Handheld Meters

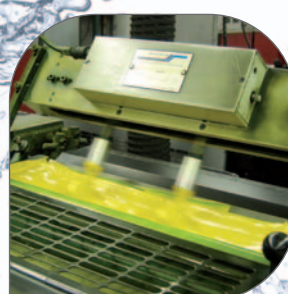
| Item | Order Code | Part No. | Parameters | | | | Electrodes | | | | | | | Accessories | | | | | | |
|--------|---------------|-----------|------------|-----|-----|-------------|---|---|---|---|---------------------------|---------------------------|--------------------------|-------------------------------|---------------------------------------|--------------------------|--------------|---------------|---|---|
| | | | pH | ORP | Ion | Temperature | "3-in-1" pH/Temp Combi Electrode (ECFC7352901B) | Double Junction pH Electrode (ECFC7252203B) | Double Junction pH Electrode (ECFC7252201B) | Single Junction pH Electrode (ECFC7252101B) | ATC Probe (PHWPTEM03J) | ATC Probe (PHWPTEM01W) | ATC Probe (PH5TEM01P) | CyberComm 600 DAS Software | CyberComm Portable DAS Software | Electrode Holder (x2) | RS232C Cable | Power Adapter | CyberScan Carry Kit Set With Calibration Stds | Economy Carry Kit Set With Calibration Stds |
| pH 620 | ECPHWP62042K | 01X415107 | • | • | • | • | | • | | | • | | | • | | | | • | • | |
| pH 610 | ECPHWP61042K | 01X415106 | • | • | • | • | | • | | | • | | | • | | | | • | • | |
| pH 600 | ECPHWP60042K | 01X415105 | • | • | • | • | | • | | | • | | | • | | | | • | • | |
| pH 310 | ECPHWP31002K | 01X245304 | • | • | • | • | | | • | | | • | | | | | | | • | |
| pH 300 | ECPHWP30002K | 01X245205 | • | • | • | • | | | • | | | • | | | | | | | • | |
| pH 110 | ECPH11002K | 01X361203 | • | • | • | • | | | • | | | | • | • | • | • | • | | • | |
| pH 11 | ECPH1102K | 01X361103 | • | • | • | • | | | • | | | | • | | | • | | | • | |
| Ion 6+ | ECION602PLUSK | 01X256410 | • | • | • | • | | | | • | | | • | | | | | | | • |
| Ion 6+ | ECION601PLUS | 01X256409 | • | • | • | • | | | | | | | • | | | | | | | |
| pH 6+ | ECPH603PLUSK | 01X245027 | • | • | • | • | • | | | | | | | | | | | | | • |
| pH 6+ | ECPH602PLUSK | 01X245026 | • | • | • | • | | | | • | | | • | | | | | | | • |
| pH 6+ | ECPH601PLUSK | 01X245028 | • | • | • | • | | | | | | | • | | | | | | | • |
| pH 6+ | ECPH601PLUS | 01X245025 | • | • | • | • | | | | | | | • | | | | | | | |
| pH 5+ | ECPH503PLUSK | 01X244913 | • | | | | • | | | | | | | | | | | | | • |
| pH 5+ | ECPH502PLUSK | 01X244912 | • | | | • | | | | • | | | • | | | | | | | • |
| pH 5+ | ECPH501PLUS | 01X244911 | • | | | • | | | | | | | • | | | | | | | |

Replacement Electrodes

| Used With | Description | Order Code | Part No. |
|---|--|--------------|-----------|
| pH 620 / pH 610 / pH 600 | ATC probe, 3 m cable | PHWPTEM03J | 01X021820 |
| pH 620 / pH 610 / pH 600 | ATC probe, 1 m cable | PHWPTEM01J | 01X021818 |
| pH 620 / pH 610 / pH 600 | General purpose plastic-body double junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 3 m cable | ECFC7252203B | 01X417010 |
| pH 310 / pH 300 | ATC probe, 1 m cable | PHWPTEM01W | 01X021807 |
| pH 310 / pH 300 / pH 110 / pH 11 | General purpose plastic-body double junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7252201B | 01X099417 |
| pH 110 / pH 11 / Ion 6+ / pH 6+ / pH 5+ | ATC probe, 1 m cable | PH5TEM01P | 01X021804 |
| Ion 6+ / pH 6+ / pH 5+ | General purpose plastic-body single junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7252101B | 01X099412 |
| pH 6+ / pH 5+ | General purpose plastic-body "3-in-1" pH/Temperature combination electrode, 12 x 110 mm, BNC connector, 1 m cable | ECFC7352901B | 01X218964 |

Accessories

| Used With | Description | Order Code | Part No. |
|----------------------------------|--|--------------|-----------|
| pH 620 / pH 610 / pH 600 | CyberScan pH 600 series carry kit set – plastic carry case, buffer solutions (pH 4.01, pH 7.00), storage solution, deionised (rinse) water | ECPHWP600KIT | 01X430201 |
| pH 620 / pH 610 / pH 600 | 100 / 240 VAC SMPS power adapter, 9 V, 6 W, centre +ve, US / UK / EUR / Japan plug | 01X030132 | 01X030132 |
| pH 620 / pH 610 / pH 600 | RS232C (LED) interface adapter | 91100-85 | 01X344202 |
| pH 310 / pH 300 / pH 110 / pH 11 | CyberScan pH carry kit set – plastic carry case, buffer solutions (pH 4.01, pH 7.00), storage solution, deionised (rinse) water | ECPHWPKIT | 01X266801 |
| pH 110 / pH 11 | 100 / 240 VAC SMPS power adapter, 9 V, 6 W, centre +ve, US / UK / EUR / Japan plug | 60X030130 | 60X030130 |
| pH 110 / pH 11 | 220 / 230 VAC power adapter (50 / 60 Hz) 2-round pin EUR type, 9 VDC 500 mA | 60X030112 | 60X030112 |
| pH 110 / pH 11 | 110 / 120 VAC power adapter (50 / 60 Hz) 2-flat pin US type, 9 VDC 500 mA | 60X030111 | 60X030111 |
| pH 110 | RS232C communication cable – 9-pin male to 9-pin female connector, 1 m cable | ECCA02M09F09 | 30X219503 |
| Ion 6+ / pH 6+ / pH 5+ | Economy pH carry kit set – plastic carry case, buffer solutions (pH 4.01, pH 7.00), storage solution, deionised (rinse) water | ECECOPHKIT | 01X266901 |
| Ion 6+ / pH 6+ / pH 5+ | Economy neutral carry kit set – plastic carry case, 4 empty sample bottles (60 ml) | ECECODRYKIT | 01X266903 |
| All except 600 series | CyberScan handheld carry pouch | ECPOUCH02 | 56X201400 |
| 12 mm diameter electrode | Electrode holder | 15X000700 | 15X000700 |



>> Printing Industries



>> Ecological Studies

pH/ORP/Ion

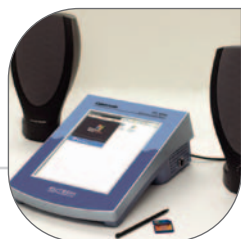
CyberScan Premium Bench

CyberScan pH 6500 ; CyberScan pH 6000

Dual pH/ORP/Ion/°C/°F

pH/ORP/°C/°F

Presenting Eutech's CyberScan 6000 series, the world's first Windows® CE-driven, full-colour touchscreen bench meter with advanced communication capabilities. Now, you can choose to send and receive information the way you want; using a USB port, wirelessly with IrDA, through a local server via LAN connection, or over the Internet to any computer in the world.



Advanced USB, IrDA connectivity allows extensive host/device communication capabilities



Internet/ethernet-ready connection: send data via email directly from meter!



Application software with technical controls for 21 CFR Part 11
(software sold separately)

World's first Windows® CE-driven colour touchscreen bench meter



Dual-channel capability – no need for recalibration every time you switch from pH to ISE measurement

Stores up to 1000 data sets for each parameter

Applications

• Pharmaceutical manufacturing • Research and lab course work • Forensic analysis
• Life sciences and medical researches
• Environmental testing labs • Wastewater and drinking water facilities • Food processing and beverage production

- Auto-calibrates with up to five pH buffers from three standard set and fifteen different buffers; also accepts custom buffers and manual calibration
- Accept standard BNC pH glass electrodes and DIN pH ISFET electrodes – no need for adapters
- Advance real-time on-screen graphing function provides useful indication for specific measurements such as titration
- Extensive set-up screens enable you to customise meter to your needs
- Advanced USB, IrDA connectivity allows extensive host/device communication capabilities
- Secure login for up to 10 users
- Plays media files

Expanded Features of CyberScan pH 6500

- pH 6500 measures and displays up to two channels simultaneously without cross channel interferences
- 'Direct/indirect', 'known addition/subtraction' and 'analate addition/subtraction' Ion measurement methods in ppm, %, mg/mL and mole/L



1 year warranty for touchscreen display; 3 years warranty for all other meter components.

Ion 2700

pH/ORP/Ion/°C/°F

pH/ORP/Ion
Deluxe Bench

Intuitive, self-diagnostic and flexible with advanced set-up options for user-customization, the Eutech Ion 2700 series comes with a large, one-glance-sees-all screen. View pH, Ion or Redox reading together with temperature, electrode status, calibration points, date and time all at once!

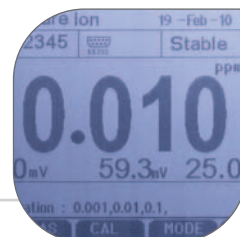
Integrated
electrode holder

RS232 output

Alarm

Oversize
informative
display

Splashproof housing
and keypad



Stability display –
faded out and then
turns completely
black when stable



Bright backlight/
illuminated display



Non-skid foot pads



Download the latest
software from our website
Coming soon!

- Up to 6-point push button calibration with auto-buffer recognition
- Direct/indirect potentiometry options
- Quick, easy electrode diagnosis with pH slope and offset display
- Non-volatile memory holds up to 500 data points – time and date-stamped for GLP compliance
- Bi-directional RS232 for easy data transfer to computer
- Cal-due alarm – no more out-dated calibrations!
- Auto-logging function for convenient continuous monitoring
- Limit alarm alerts when reading falls out of range
- Password protection for setup and calibration

Use with any BNC ion electrode – sold separately

Electrode arm and bracket available as separate accessory (order code: 01X321801) – please refer to page 111



Applications

Educational: Useful for most laboratory, ecological studies and other applications.

Laboratory: Environmental studies, chemical labs, titrations and quality assurance testing, where GLP data-management is required. Use in all types of food processing.

Oversize screen with large fonts yet compact – the new Eutech pH 2700 offers an easy to read screen that says more! View pH or ORP readings, with temperature, electrode status, calibration points, date and time all at once!



Visual stability display
eliminates guesswork



Bright backlight/
illuminated display



Integrated electrode
holder – can be used
on either side



Download the latest
software from our website
Coming soon!



RS232 output

Alarm

New

Informative
display

Oversize display
in compact size

Non-skid
foot pads

Quick reference
guide

Applications

Educational: Useful for most laboratory, ecological studies and other applications.

Laboratory: Environmental studies, chemical labs, titrations and quality assurance testing, where GLP data-management is required. Use in all types of food processing.

- Up to 6-point calibration with auto-buffer recognition
- Quick, easy electrode diagnosis with multiple pH slopes and offset display
- Non-volatile memory holds up to 500 data points – time and date-stamped for GLP compliance
- Comprehensive self-diagnostic messages that makes troubleshooting a breeze
- Cal-due alarm – no more out-dated calibrations!
- Auto-logging function for convenient continuous monitoring
- Password protection for setup and calibration

Electrode arm and bracket available as separate accessory (order code: 01X321801) – please refer to page 111



Ion 700

pH/ORP/Ion/°C/°F

pH/ORP/Ion
Economy Bench

Ion-selective electrode measurement has never been this easy – or economical! The Ion 700 measures and records up to 100 pH, Ion and/or ORP data points at up to 2 decimal point resolution.

pH/ORP/Ion



Oversize display
– easy to read



Non-skid foot pads



Splashproof keypad



Quick reference guide

- Large, comprehensive screen that displays readings, calibration points and electrode indicator
- Ready indicator alerts when readings are stable
- Up to 5-point calibration with auto-buffer recognition
- Non-volatile memory holds up to 100 data points
- Integral electrode holder

Use with any BNC ion selective electrode – sold separately

Electrode arm and bracket available as separate accessory (order code: 01X321801) – please refer to page 111



Applications

Educational: Useful for most laboratory, ecological studies and other applications.

Laboratory: Environmental studies, chemical labs, titrations and quality assurance testing. Use in all types of food processing.

Economical, user-friendly and accurate, the Eutech pH 700 is your ideal choice for routine applications in laboratories, productions plants and schools.



Integrated electrode holder – can be used on either side



Splashproof housing; easy to operate keypad



Quick reference guide



Applications







Educational: Useful for most laboratory, ecological studies and other applications.

Laboratory: Environmental studies, chemical labs, titrations and quality assurance testing. Use in all types of food processing.

- Large, comprehensive screen that displays readings, calibration points and electrode indicator
- Ready indicator alerts when readings are stable
- Up to 5-point push button calibration with auto-buffer recognition
- Non-volatile memory holds up to 100 data points
- Integral electrode holder

Electrode arm and bracket available as separate accessory (order code: 01X321801) – please refer to page 111



| Models | | CyberScan Premium Bench | | Deluxe Bench | | Economy Bench | |
|---|-----------------------------|---|---|---|--|---|---|
| | | pH 6500 | pH 6000 | Ion 2700 | pH 2700 | Ion 700 | pH 700 |
| pH/ORP Bench Meters Specifications | |  |  |  |  |  |  |
| Measuring Parameter | | pH / pH FET / ORP / Ion / °C / °F | pH / pH FET / ORP / °C / °F | pH / Ion / ORP / °C / °F | pH / ORP / °C / °F | pH / Ion / ORP / °C / °F | pH / ORP / °C / °F |
| Highlights | | Windows® CE dual-channel colour touchscreen, (with pH FET) | Windows® CE single- channel colour touchscreen, (with pH FET) | Graphic LCD with backlight & extensive display | | Large LCD with dual display | |
| pH | Range | -2.000 to 20.000 pH | | -2.000 to 20.000 pH | | -2.00 to 16.00 pH | |
| | Resolution | 0.1 / 0.01 / 0.001 pH | | | | 0.01 pH | |
| | Accuracy | ±0.1 / 0.01 / 0.002 pH + 1 LSD | | ±0.002 pH + 1 LSD | | ±0.01 pH | |
| | Cal. Points | Up to 5 | | Up to 6 | | Up to 5 | |
| | Buffer Sets | USA, NIST, Euro, Custom | | USA, NIST, DIN, User 1, User 2, Custom | | USA, NIST | |
| ORP | Range | ±2000.0 mV | | | | ±2000 mV | |
| | Rel. mV Range | ±2000.0 mV | | ±2000.0 mV | | ±2000 mV | |
| | Resolution | 0.1 mV | | | | 0.1 mV (±199.9 mV) / 1 mV (beyond) | |
| | Accuracy | ±0.2 mV | | | | ±0.2 mV (±199.9 mV) / 2 mV (beyond) | |
| Ion | Concentration | 1 x 10 ⁻⁶ to 9.99 x 10 ¹⁰ ppm | – | 0.001 to 19999 ppm (±2000 mV) | – | 0.01 to 2000 ppm (±2000 mV) | – |
| | Resolution | 2 / 3 / 4 digits | – | 2 / 3 digits | – | 0.01 / 0.1 / 1 ppm | – |
| | Accuracy | ±0.17 % full scale (monovalent) ±0.34 % full scale (divalent) | – | 0.5 % full scale (monovalent) 1 % full scale (divalent) | – | ±0.5 % full scale (monovalent) ±1 % full scale (divalent) | – |
| | Cal. Points | 2 to 5 | – | 2 to 8 | – | 2 to 5 | – |
| | Incremental Methods | KA, KS, AA, AS | – | – | – | – | – |
| Temperature | Range (Meter) | -5.0 to 105.0 °C / 23.0 to 221.0 °F | | 0.0 to 100.0 °C / 32.0 to 212.0 °F | | | |
| | Resolution | | | 0.1 °C / 0.1 °F | | | |
| | Accuracy | ±0.2 °C / ±0.3 °F | | ±0.3 °C / ±0.5 °F (0 to 70 °C) | | | |
| Meter Features | Temperature Compensation | ATC / MTC (0 to 100 °C) | | ATC / MTC (0 to 100 °C) (pH only) | | | |
| | GLP | Yes | | | | – | |
| | Slope/Offset Display | | | Yes | | | |
| | Datalogging | Yes | | | | – | |
| | Memory | Up to 1000 data sets per parameter | | 500 data sets | | 100 data sets | |
| | Operating Temperature | | | 5 to 45 °C / 41 to 113 °F | | | |
| | LCD Display | Windows® CE colour touchscreen (11.5 x 15.4 cm) | | Graphic LCD with backlight (5.9 x 7.8 cm) | | Custom dual-display LCD (5.6 x 7.5 cm) | |
| | Input | DC socket, 2 BNC, 2 phono (ATC), FET, SD card, USB-A, USB-B, RJ45, audio | DC socket, BNC, phono (ATC), FET, SD card, USB-A, USB-B, RJ45, audio | DC socket, BNC, phono (ATC), phono (reference), phono (RS232) | | DC socket, BNC, phono (ATC), phono (reference) | |
| | Output | USB, IrDA, RS232C | | RS232C | | – | |
| | Power | 9 V DC adapter, 3.3 A (100 / 240 VAC, SMPS) | | 9 V DC adapter, 1.3 A (100 / 240 VAC, SMPS) | | | |
| Dimensions (LxWxH); Weight | Meter | 16.5 x 23.5 x 8.9 cm ; 1100 g | | 17.5 x 15.5 x 6.9 cm ; 650 g | | | |
| | Boxed | 49 x 28 x 16 cm ; 3330 g | | 30.8 x 23.5 x 12.4 cm ; 1800 g | | | |

| pH/ORP Bench Meters | | | | | | | | | | | | | | | | | | |
|---------------------|---------------|-----------|------------|--------|-----|-----|-------------|-------------------------|-------------------------|-----------------------------|-----------------------------|---------------------|------------------------|--|---------------------------------|---------------------------|--------------|---------------|
| Item | Order Code | Part No. | Parameters | | | | | Electrodes | | | | | | Accessories | | | | |
| | | | pH | pH FET | ORP | Ion | Temperature | pH Electrode (EC620130) | pH Electrode (EC620131) | pH Electrode (ECFC7252101B) | pH Electrode (ECFC7370101B) | ATC Probe (EC62019) | ATC Probe (PH5TEMB01P) | CyberComm 6000 21 CFR Part 11 Software | CyberComm Pro V2.4 DAS Software | Integral Electrode Holder | RS232C Cable | Power Adapter |
| pH 6500 | ECPH650042SC | 01X373710 | • | • | • | • | • | • | | | | • | | • | • | • | • | • |
| pH 6500 | ECPH650042S | 01X373705 | • | • | • | • | • | • | | | | • | | | | • | • | • |
| pH 6000 | ECPH600042SC | 01X373512 | • | • | • | | • | • | | | | • | | • | | • | • | • |
| pH 6000 | ECPH600042S | 01X373505 | • | • | • | | • | • | | | | • | | | | • | • | • |
| Ion 2700 | ECION270042GS | 01X543904 | | | • | • | • | | | | • | | • | | | • | | • |
| Ion 2700 | ECION270040S | 01X543903 | • | | | • | • | | | | | | | | | • | | • |
| pH 2700 | ECPH270042GS | 01X543902 | • | | • | | • | | | | • | | • | | | • | | • |
| pH 2700 | ECPH270040S | 01X543901 | • | | • | | • | | | | | | | | | • | | • |
| Ion 700 | ECION70040S | 01X541609 | • | | | • | • | | | | | | | | | • | | • |
| pH 700 | ECPH70042S | 01X541605 | • | | • | | • | | | • | | | • | | | • | | • |
| pH 700 | ECPH70042GS | 01X541610 | • | | • | | • | | • | | | | • | | | • | | • |
| pH 700 | ECPH70040S | 01X541603 | • | | • | | • | | | | | | | | | • | | • |

| Replacement Electrodes | | | |
|------------------------|--|--------------|-----------|
| Used With | Description | Order Code | Part No. |
| pH 6500 / pH 6000 | ATC probe, 1 m cable | EC62019 | 01X306504 |
| pH 6500 / pH 6000 | General purpose glass body open pore refillable pH electrode, 12 x 140 mm & 10 mL refilling electrolyte | EC620130 | 01X218972 |
| pH 2700 | Glass-body double junction Ag/AgCl refillable pH electrode, 12 x 110 mm, BNC connector, 1 m cable | ECFC7370101B | 93X218819 |
| pH 700 | General purpose plastic-body single junction gel-filled pH combination electrode, 12 x 90 mm, BNC connector, 1 m cable | ECFC7252101B | 01X099412 |
| pH 2700 / pH 700 | ATC probe | PH5TEMB01P | 01X210303 |

| Accessories | | | |
|--------------------|--|--------------|-----------|
| Used With | Description | Order Code | Part No. |
| pH 6500 / pH 6000 | RS232C communication cable – 9-pin male to 9-pin female connector, 1 m cable | ECCA02M09F09 | 30X219503 |
| pH 2700 / Ion 2700 | RS232 to USB cable – use with 30X427301 cable to connect 2700 to USB port of PC | 30X544601 | 30X544601 |
| pH 6500 / pH 6000 | CyberComm 6000 (21 CFR Part 11 compliant CyberScan 6000 series application software) | ECDAS6000 | 01X415501 |
| pH 6500 / pH 6000 | 100 / 240 VAC SMPS power adapter, 9 V, 3.3 A, centre -ve, with 2-pin power cord | 60X030128 | 60X030128 |
| pH 2700 / Ion 2700 | 100 / 240 VAC SMPS power adapter, 9 V, 6 W | 60X426401 | 60X426401 |
| pH 700 / Ion 700 | 100 / 240 VAC SMPS power adapter, 9 V, 6 W | 60X030130 | 60X030130 |
| pH 6500 / pH 6000 | Secure Digital (SD) memory card, 256 MB, Sandisk | 01X419901 | 01X419901 |
| pH 2700 / Ion 2700 | pH electrode refill solution, reference, saturated potassium chloride, 60 ml | 01X211297 | 01X211297 |
| All meters | Electrode stand with swivel arm | ECPHELSTDC | 01X081600 |

